



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/594,319

04/03/2007

Anthony L. Smith

032968-0133

2135

22428

7590

08/01/2011

FOLEY AND LARDNER LLP

SUITE 500

3000 K STREET NW

WASHINGTON, DC 20007

EXAMINER

CHAU, TERRY C

ART UNIT

PAPER NUMBER

3655

MAIL DATE

DELIVERY MODE

08/01/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/594,319

**Applicant(s)**

SMITH ET AL.

**Examiner**

TERRY CHAU

**Art Unit**

3655

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 July 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 5-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 49 and 50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/13/2011 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-942)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This is the third office action on the merits for application 10/594,319 filed 4/3/2007.

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Applicant's amendment to the claims filed 7/12/2011 has been entered. The previous 35 U.S.C. 112 rejection of claim 3 is withdrawn in view of applicant's amendment. Claims 1-50 are currently pending. Claims 5-48 are withdrawn from further consideration as being drawn to non-elected Invention.

### ***Election/Restrictions***

Applicant's election without traverse of Invention 1 in the reply filed on 3/18/2010 is acknowledged.

Claims 5-48 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3/18/2010

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 8/27/2006 has been considered by the examiner.

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. For example, US 4,788,885 is referenced in paragraph 0081 but is not listed on an IDS.

***Specification***

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-4, 49 and 50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

**Regarding claims 1 and 2**, the housing insert is not provided as a single piece in applicant's viscous fluid clutch. The housing insert comprises both a wheel portion 54 and a ring portion 56. See paragraph 0058. Although initially, the two may be formed as a singled precursor piece, the precursor piece is then machined so that the ring portion is separate from the wheel portion in the final product. See paragraph 0073. Applicant is claiming the final product, a viscous fluid clutch, not a process for manufacturing the final product, or stock components which may be used to form the final product. Therefore, it is improper to claim that the final product / housing insert is provided as a single piece, when it is clear that the final product / housing insert is provided as two disconnected pieces.

For examination purposes, the final clauses of claims 1 and 2 are treated as product-by-process limitations. See MPEP 2113. That is, the final clauses are interpreted as follows: *wherein the housing insert forming the labyrinth seal path with the first housing portion is (initially) provided as a single piece.*

Appropriate correction is required.

**Claims 3, 4, 49 and 50** are rejected as being dependent upon rejected claims 1 or 2.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-4, 49 and 50 are rejected under 35 U.S.C. 102(a) as being anticipated by Smith et al. (US 6,585,092).**

Smith et al. discloses:

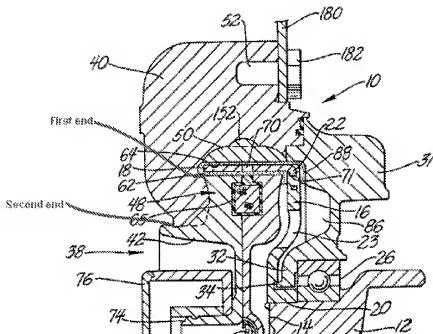
**Regarding claim 1:**

A viscous fluid clutch (see figure 1) comprising:

a housing (31, 40) including a first housing portion (40) cast around an annular housing insert (42) and a second housing portion (31) connected to the first housing portion and defining a fluid reservoir (86) contained by the first and second housing portions; and

a labyrinth seal path (seal path between 48 and 40) formed between the housing insert and the first housing portion and having a first end (radially outer end of seal path; see figure below) and a second end (radially inner end of seal path; see figure below) such that any fluid entering the labyrinth seal path is returned to the fluid reservoir between the first and second housing portions,

wherein the housing insert forming the labyrinth seal path with the first housing portion is (initially) provided as a singled piece (See the 35 U.S.C. 112, second paragraph rejection above. This limitation is treated as a product-by-process limitation and, as such, is not considered to be limiting. See MPEP 2113.).



**Regarding claim 2:**

A viscous fluid clutch (see figure 1), comprising:

- an input shaft (12);
- a rotor assembly (16, 18) connected to the input shaft;
- an annular housing insert (42);
- a coil assembly (44) operatively connected to the housing insert;
- a housing (31, 40) including a first housing portion (40) cast around the housing insert and a second housing portion (31) connected for rotation with the first housing portion and rotatably disposed on the input shaft; and

a fluid reservoir (86) disposed between the first housing portion and the second housing portion,

wherein the first housing portion and the housing insert form there between a labyrinth seal path (seal path between 48 and 40) having a first end (radially outer end of seal path; see figure above) and a second end (radially inner end of seal path; see figure above),

wherein each of the first end and the second end of the labyrinth path communicate with the fluid reservoir such that any fluid entering the labyrinth seal path is returned to the fluid reservoir,

wherein the housing insert forming the labyrinth seal path with the first housing portion is (initially) provided as a singled piece (See the 35 U.S.C. 112, second paragraph rejection above. This limitation is treated as a product-by-process limitation and, as such, is not considered to be limiting. See MPEP 2113.).

**Regarding claim 3**, the first end of the labyrinth seal path is located toward an outer radial end of the rotor assembly and the second end is located toward a central portion of the coil assembly.

**Regarding claim 4**, the housing insert includes an annular locking extension portion (176) configured to interlock the housing insert and the first housing portion.

**Regarding claims 49 and 50**, the labyrinth seal path extends from near an end of a rotor (first end of labyrinth seal path) to a central portion of a coil assembly of the clutch (second end of labyrinth seal path).



**Claims 1-4, 49 and 50 are rejected under 35 U.S.C. 102(b) as being anticipated by Moser et al. (US 5,960,918).**

Moser et al. discloses:

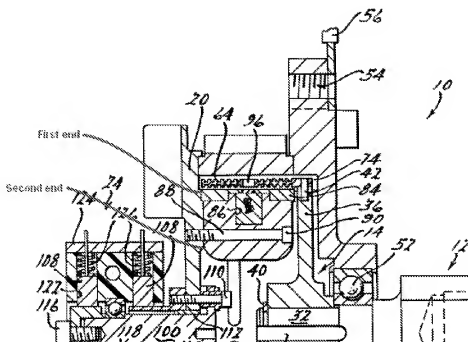
**Regarding claim 1:**

A viscous fluid clutch (see figure 1) comprising:

a housing (16, 18, 20) including a first housing portion (18, 20) provided around an annular housing insert (80, 84) and a second housing portion (16) connected to the first housing portion and defining a fluid reservoir (72) contained by the first and second housing portions; and

a labyrinth seal path (path between 80 and 20; and 84 and 20) formed between the housing insert and the first housing portion and having a first end (radially outer end of seal path; see figure below) and a second end (radially inner end of seal path; see figure below) such that any fluid entering the labyrinth seal path is returned to the fluid reservoir between the first and second housing portions,

wherein the housing insert forming the labyrinth seal path with the first housing portion is (initially) provided as a singled piece (See the 35 U.S.C. 112, second paragraph rejection above. This limitation is treated as a product-by-process limitation and, as such, is not considered to be limiting. See MPEP 2113.).



**Regarding claim 2:**

A viscous fluid clutch (see figure 1), comprising:

- an input shaft (30);
- a rotor assembly (36, 38) connected to the input shaft;
- an annular housing insert (80, 84);
- a coil assembly (82) operatively connected to the housing insert;
- a housing (16, 18, 20) including a first housing portion (18, 20) cast around the housing insert ("cast" is broadly interpreted to mean formed or placed) and a second housing (16) portion connected for rotation with the first housing portion and rotatably disposed on the input shaft; and
- a fluid reservoir (72) disposed between the first housing portion and the second housing portion,

wherein the first housing portion and the housing insert form there between a labyrinth seal path (path between 80 and 20; and 84 and 20) having a first end (radially outer end of seal path; see figure above) and a second end (radially inner end of seal path; see figure above) wherein each of the first end and the second end of the labyrinth path communicate with the fluid reservoir such that any fluid entering the labyrinth seal path is returned to the fluid reservoir,

wherein the housing insert forming the labyrinth seal path with the first housing portion is (initially) provided as a singled piece (See the 35 U.S.C. 112, second paragraph rejection above. This limitation is treated as a product-by-process limitation and, as such, is not considered to be limiting. See MPEP 2113.).

**Regarding claim 3**, the first end of the labyrinth seal path is located toward an outer radial end of the rotor assembly and the second end is located toward a central portion of the coil assembly.

**Regarding claim 4**, the housing insert includes an annular locking extension portion (leftmost annular portion of 84 which projects beyond the leftmost surface of 80) configured to interlock the housing insert and the first housing portion.

**Regarding claims 49 and 50**, the labyrinth seal path extends from near an end of a rotor (first end of labyrinth seal path) to a central portion of a coil assembly of the clutch (second end of labyrinth seal path).

***Response to Arguments***

Applicant's arguments filed 7/12/2011 have been fully considered but they are not persuasive.

Applicant argues that the housing insert provided as a single piece was not addressed in rejections over the prior art in the previous office action.

In response, the examiner included this limitation in the art rejections above. It should now be clear that this limitation is treated to be non-limiting, since it describes a method of forming a viscous fluid clutch and not the structure of the viscous fluid clutch final product.

Applicant argues that the first and second ends of the seal path of Smith or Moser are unclear from the previous office action.

In response, the first and second ends are now clearly labeled in the figures above.

Applicant argues that the first and second ends of Smith do not communicate with fluid reservoir 86.

In response, in addition to the arguments provided in the previous office action, it is noted that when the structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent. See MPEP 2112.01. If there are some structural differences, which permits the first and second

ends of the applicant's seal to communicate with the fluid reservoir, missing in the seal of Smith, then applicant must recite those structural differences in the claim language to distinguish applicant's invention over the prior art.

Applicant argues that Moser does not disclose a seal path with ends communicating with a fluid reservoir.

The examiner respectfully disagrees. Both ends of the seal path of Moser open towards reservoir 72.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TERRY CHAU whose telephone number is (571) 270-5926. The examiner can normally be reached on Monday-Friday 9:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Le can be reached on (571)272-7092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID D. LE/  
Supervisory Patent Examiner, Art Unit 3655  
07/27/2011

/TERRY CHAU/  
Examiner, Art Unit 3655